

## SAT Report

PMN Number: **P-13-0369**

SAT Date: **4/12/2013**

Print Date: **8/19/2014**

### Related cases:

### Concern levels:

Type of Concern:	<u>Health</u>	<u>Eco</u>	<u>Comments</u>
Level of Concern:	1-2	3	

<u>Persistence</u>	<u>Bioaccum</u>	<u>Toxicity</u>	<u>Comments</u>
2	1	1	Anion
2	1	2	Cation
		Awaiting	
		Human Health	
		Entry	
		Awaiting	
		Human Health	
		Entry	
		Awaiting	
		Human Health	
		Entry	

### Exposure Based Review:

**Health:** Yes

**Ecotox:** Yes

### Routes of exposure:

**Health:** Drinking Water Inhalation

**Ecotox:** All releases to water

**Fate:** ; Anion slow – moderate; Cation slow - moderate

### Keywords:

Keywords:

### Summary of Assessment:

#### Fate:

Fate Summary: P-13-0369

FATE:

S > 10 g/L at 25 C (E)

VP < 1.0E-6 torr at 25 C (E)

BP > 400 C (E)

H < 1.00E-8 (E)

POTW removal (%) = Anion 32; Cation 90 via sorption and biodeg

Time for complete ultimate aerobic biodeg = Anion ≥ mo; Cation wk

Sorption to soils/sediments = Anion moderate – strong; Cation moderate - strong

PBT Potential: Anion P2B1; Cation P2B1

\*CEB FATE: Migration to ground water = Anion slow – moderate; Cation slow - moderate

### **Health:**

**Health Summary:** Not absorbed from the skin, absorbed from the lung (pchem), absorbed from the GI tract (analog). Concern for liver and kidney toxicity based on a NOEL of 30 mg/kg for the analogue [REDACTED] with effects to the liver and kidney at higher doses [REDACTED]

### **Ecotox:**

Test Organism	Test Type	Test End Point	Predicted	Measured	Comments
fish	96-h	LC50	>100		
daphnid	48-h	LC50	>100		
green algal	96-h	EC50	0.052		
fish	–	chronic value	>10		
daphnid	–	chronic value	>10		
algal	–	chronic value	0.017		
Sewage Sludge	3-h	EC50	–		
Sewage Sludge	–	Chronic Value	–		

### **Ecotox Values Comments:**

Factors	Values	Comments
Assessment Factor	10	
Concentration of Concern (ppb)	2	
SARs	inorganic phosphates	
SAR Class	[REDACTED]	
Ecotox Category		

### **Ecotox Factors Comments:**

**SAT Chair:** L Keifer 564-8916



**Focus Report**  
**New Chemicals Program**  
PMN Number: **P-13-0369**

Focus Date: 04/17/2013 11:00:00 PM      Report Status: Completed  
Consolidated Set:  
Focus Chair: Brian Lee      Contractor: Jean Quenneville

**I. Notice Information**

Submitter: [REDACTED]      CAS Number: None  
Chemical Name: Polyphosphoric acids, esters with triethanolamine, compds. with alkylpyridines  
Use: Solids conglomeration additive for use in oil and gas wells, to prevent undesirable formation of solids in well streams.

Other Uses:

PV-Max:

Manufacture:

X

Import:

**II. SAT Results**

(1) **Health Rating:** 1-2      **Eco Rating:** 3      **Comments:** ;

**Occupational:** 1C      **Non-Occupational:** 3      **Environmental:** 3

(1) **PBT:** 2      1      1      **Comments:** Anion

(2) **PBT:** 2      1      2      **Comments:** Cation

**III. OTHER FACTORS**

**Categories:**

Health Chemical Category:      Ecotox Category: inorganic phosphates

**Related Cases/Regulatory History:**

Health related Cases:

Ecotox Related Cases:

Regulatory History:

[REDACTED]  
-WITHDRAWN/FACE 5E  
-FOCUS DROP  
-REG 5E CONS./TESTING TRIGGER EXPOSURE-BASED

**MSDS/Label Information:**

MSDS: Yes      Label: No  
General Equipment: Wear safety glasses with side shields (or goggles) and a face shield, protective gloves, suitable protective clothing, closed-toe shoes.  
Respirator: Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstance where air-purifying respirators may not provide adequate protection.  
Health Effects: Eyes: Causes eye irritation. Contact may cause irritation with redness, tearing and pain. Skin: Harmful if absorbed through skin. Inhalation: Harmful if inhaled. May cause irritation of respiratory tract. Ingestion: May be fatal or cause blindness if swallowed. Cannot be made non-poisonous. May cause dizziness, incoordination, headache, nausea, and vomiting. Even small amounts (30 - 250 ml methanol) may be fatal.  
TLV/PEL (PMN or raw material): - Not established for the PMN

**Exposure Based Information:**

Exposure Based Review: Y

Exposure Based Review (Eco): Y

Exposure Based Review

(Non Occupational):

Exposure Based Review (Health): Y

Exposure Based (Occupational): No

Exposure Based (Environmental):

## **IV. Summary of SAT Assessment**

### **Fate:**

**Fate Summary:** P-13-0369  
FATE:  
Solid  
S > 10 g/L at 25 C (E)  
VP < 1.0E-6 torr at 25 C (E)  
BP > 400 C (E)  
H < 1.00E-8 (E)  
POTW removal (%) = Anion 32; Cation 90 via sorption and biodeg  
Time for complete ultimate aerobic biodeg = Anion ≥ mo; Cation wk  
Sorption to soils/sediments = Anion moderate – strong; Cation moderate - strong  
PBT Potential: Anion P2B1; Cation P2B1  
\*CEB FATE: Migration to ground water = Anion slow – moderate; Cation slow - moderate

### **Health:**

**Health Summary:** Not absorbed from the skin, absorbed from the lung (pchem), absorbed from the GI tract (analog).  
Concern for liver and kidney toxicity based on a NOEL of 30 mg/kg for the analogue  
5-ethyl-2-picoline with effects to the liver and kidney at higher doses (OECD SIDS dossier for  
5-ethyl-2-picoline, printed 04/11/13).

### **Ecotox:**

**Ecotox Values:**  
Fish 96-h LC50: >100(P)  
Daphnid 48-h LC50: >100(P)  
Green algal 96-h EC50: 0.052(P)  
Fish Chronic Value: >10(P)  
Daphnid ChV: >10(P)  
Algal ChV: 0.017(P)

**Ecotox values comments:** Predictions are based on SARs for inorganic phosphates; SAR chemical class = pyrophosphate  
with 58% PO<sub>4</sub>; MW 848; S > 80 g/L at 20 C (M); pH7; effective concentrations based on 100%  
active ingredients and mean measured concentrations; hardness <180.0 mg/L as CaCO<sub>3</sub>; and  
TOC <2.0 mg/L;

### **Ecotox Factors:**

Assessment Factor: 10  
Concern Concentration: 2

## **V. Summary of Exposures/Releases**

Engineering Summary: P-13-0369

<b>Exposures/Releases</b>	<b>Release</b>	<b>Release</b>	<b>Release</b>
<b>Scenario</b>	<b>Manufacturing</b>	<b>Manufacturing</b>	<b>Manufacturing</b>
<b>Sites</b>			
<b>Media</b>			
Descriptor A	Conservative	Output 2	Output 2
Quantity A (kg/site/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (kg/site/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

<b>Engineering Summary: Exposures/Releases</b>	<b>Release</b>	<b>Release</b>	<b>Release</b>
<b>Scenario</b>	<b>Use: Solids Conglomeration Additive for Oil Wells</b>	<b>Use: Solids Conglomeration Additive for Oil Wells</b>	<b>Use: Solids Conglomeration Additive for Oil Wells</b>
<b>Sites</b>			
<b>Media</b>			
Descriptor A	High End	Output 2	Output 2
Quantity A (kg/site/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (kg/site/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

## V. Summary of Exposures/Releases

Engineering Summary: P-13-0369

Exposures/Releases	Release	Release	Release
Scenario	Use: Solids Conglomeration Additive for Oil Wells	Use: Solids Conglomeration Additive for Oil Wells	Use: Solids Conglomeration Additive for Oil Wells
Sites			
Media			
Descriptor A	Output 2	Output 2	Output 2
Quantity A (kg/site/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (kg/site/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

Engineering Summary: Exposures/Releases	Release	Release	Exposure
Scenario	Use: Solids Conglomeration Additive for Oil Wells	Use: Solids Conglomeration Additive for Oil Wells	Manufacturing
Sites			
Media			
Descriptor A	Output 2	Output 2	High End
Quantity A (kg/site/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (kg/site/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

## **V. Summary of Exposures/Releases**

Engineering Summary: P-13-0369

<b>Exposures/Releases</b>	<b>Exposure</b>		
<b>Scenario</b>	<b>Use: Solids Conglomeration Additive for Oil Wells</b>		
<b>Sites</b>			
<b>Media</b>			
Descriptor A	High End		
Quantity A (kg/site/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (kg/site/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

## **VI. Focus Decision and Rationale**

### **Regulatory Actions**

Regulatory Decision: PMN Ban Pending Upfront Testing

Decision Date: 04/17/2013

Type of Decision:

Rationale:

P-13-0369 will be regulated under the TSCA 5(e) category (inorganic phosphates) Ban Pending-Up Front Testing under the risk and exposure based authority for ecotoxicity concerns. Human health hazard concerns were low-moderate for inhalation exposures. Potential risks to workers were addressed by negligible vapor exposure. Ecotoxicity hazard concerns were high based on SAR predictions inorganic phosphates. Chronic risks to the environment were high due to releases to water where the chronic COC of 2 ppb was exceeded 89 [REDACTED] days (SWC: [REDACTED]) and 279 [REDACTED] days (SWC: [REDACTED]) during use operations. Acute risks to the environment were significant due to releases to water where the SWCs of [REDACTED] and [REDACTED] exceeded the acute COC of 13 ppb during use operations. The required ecotoxicity testing will be the algal toxicity test (OCSP Test Guidelines 850.4500) plus a modified algal toxicity test (OCSP Test Guidelines 850.4500). The modified algal test will be to substitute the PMN substance for the phosphate nutrient in the algal growth medium. RAD recommends that the test protocol be reviewed prior to toxicity test initiation. The following EAB criteria were met: Routine Dermal Cont: >250 workers & >100 days/yr. The following CEB criteria were met: Surface Water Release After Treatment ([REDACTED]) and Surface Water Release After Treatment ([REDACTED]). Required fate testing will be the Ready Biodegradation Test - OECD 301. No human health testing is desired.

COC: Chronic – 2 ppb, Acute – 13 ppb

### Summary of Exposures and Releases

Manu

[REDACTED]

[REDACTED]

[REDACTED]

Use

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

P2 Rec Comments:

**Testing:**

**Final Recommended:**

Health:  
Eco:  
Fate:  
Other:

Briefing Paper  
Case Number P-13-0369  
Risk- and Exposure-Based

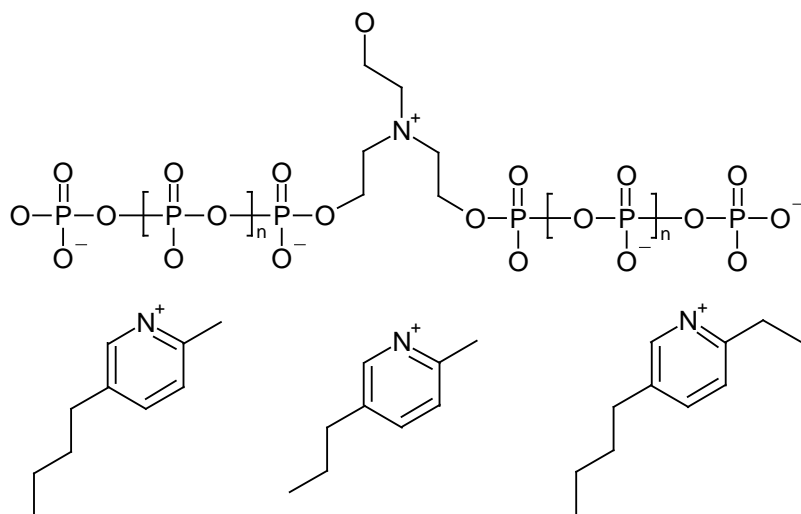
PART I: BACKGROUND DATA

Program Manager: Zofia Kosim

Disposition Date:

Day 90 - 07/01/13

- A. Submitter [REDACTED]  
B. Chemical Identity: Polyphosphoric acids, esters with triethanolamine, compds. with alkylpyridines  
C. Chemical Class: inorganic phosphates; Phosphates inorganic  
D. Structure:



- E. Physical Form: neat – solid (est), Physical State—Manuf - [REDACTED]  
[REDACTED]

Physical State—Processing - [REDACTED]

PMN substance [REDACTED]

- F. Molecular Weight: 847.58

G. Volume: [REDACTED]

H. Use: Solids conglomeration additive for use in oil and gas wells, to prevent undesirable formation of solids in well streams. [REDACTED]  
[REDACTED]

I. MSDS or Label: Gen Eqpt: Wear safety glasses with side shields (or goggles) and a face shield, protective gloves, suitable protective clothing, closed-toe shoes. Respirator: Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstance where air-purifying respirators may not provide adequate protection.

J. Focus Results: P-13-0369 will be regulated under the TSCA 5(e) category (inorganic phosphates) Ban Pending-Up Front Testing under the risk and exposure based authority for ecotoxicity concerns. Human health hazard concerns were low-moderate for inhalation exposures. Potential risks to workers were addressed by negligible vapor exposure. Ecotoxicity hazard concerns were high based on SAR predictions inorganic phosphates. Chronic risks to the environment were high due to releases to water where the chronic COC of 2 ppb was exceeded 89/[REDACTED] days (SWC: [REDACTED]) and 279/[REDACTED] days (SWC: [REDACTED]) during use operations. Acute risks to the environment were significant due to releases to water where the SWCs of [REDACTED] and [REDACTED] exceeded the acute COC of 13 ppb during use operations. The required ecotoxicity testing will be the algal toxicity test (OCSPP Test Guidelines 850.4500) plus a modified algal toxicity test (OCSPP Test Guidelines 850.4500). The modified algal test will be to substitute the PMN substance for the phosphate nutrient in the algal growth medium.

## PART II: RECOMMENDATION AND RATIONALE

1. non-5(e) SNUR with the requirement for retrieving and incinerating any amounts of the PMN material [REDACTED] and the Focus-recommended testing.
2. Drop

## PART III: NEW INFORMATION

Based on the clarification from the company, the engineering report revised on May 20, 2013, did not indicate any water releases of the PMN chemical substance.

